



**Infant Safety**  
**Kelley Bowden, RN, MS**  
**Jen Hayman, MD**  
**Christine Theriault**

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Cancer | Cardiology & Heart Surgery | Geriatrics | Gynecology  
Nephrology | Orthopedics | Pulmonology | Urology



**Safe Sleep**

Jennifer Hayman, MD, FAAP  
Kelley Bowden, MS, RN

## Summary of Maine Death Reviews

2002-2006

- Mean age of 3.4 months
  - range :2 *days to 23 months* of age.
- Bed-sharing 56+%
- Non-supine (not-on-back) sleep, improper sleep surface or improper items in sleep area in 2/3 of babies
- **94% unsafe sleeping environment**
- Only 3 of 54 infants met safe sleep criteria of the American Academy of Pediatrics (AAP).

2009 - 2012

- 26/49 were **bed-sharing**
- 24/49 Non-supine sleep
- 38/49 Unsafe items
  - 4 had **"boppy"** in the crib or couch
- 27/49 environmental tobacco smoke exposed
- 22/49 drugs and/or alcohol
  - 13/26 who were bedsharing had +drugs and/or ETOH
- **Only 2 of 49 met criteria for safe sleep**
- 12/49 NAS diagnosis at birth
- Newer risk identified:
  - » In 2012, 2 wearable blankets used swaddled > 2months of age

## What Are the Risks? A few Key Stats

- Blair, et al, BMJ 2009
  - Bed sharing
    - » 5.23 times more likely to die while asleep (vs in crib)
  - Bed sharing + drug/alcohol
    - » 53.26 times more likely to die while asleep (vs in crib)
  - Drug/alcohol alone = no increased risk
- Scheers, et al, Peds 2003
  - OR 40 adult bed v. crib
  - This is study referenced in Maine Safe Sleep PSA

## AAP Safe Sleep Task Force Expanded recommendations

### Newer Recommendations:

- **Room-sharing** without bed-sharing
- Pregnant women- regular prenatal care
- Avoid smoke exposure, and alcohol and illicit drug use during pregnancy *and after birth*
- Breastfeeding is protective
- Consider pacifier with sleep
- Home cardiorespiratory monitors do not reduce the risk of SIDS
- Commercial devices marketed to reduce the risk of SIDS are not studied

### Reinforced Recommendations:

- Back to sleep for every sleep
- Use a firm sleep surface
- Keep soft objects and loose bedding out of the crib
- Avoid overheating

## What happened in 2013 and 2014

- Cluster in September 2013
  - 5 deaths in < one month
- 2014
  - Similar patterns noticed
  - Notified by PICU doctor about prone sleep death, and a day care sleep death
  - Death during an overlay situation 12/2014

## De-bunk the myths

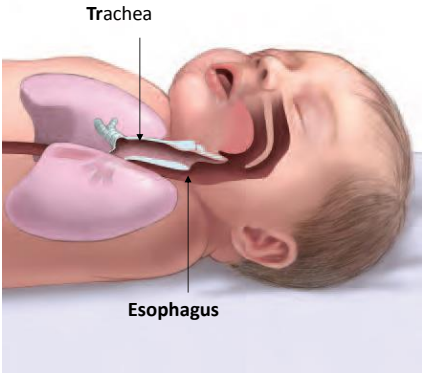
- Positional plagiocephaly
- Head stuck in crib slats
  - Importance of industry standard cribs
- “Safe bed-sharing”
  - Canadian data revealed that children who died in unsafe sleep situations had parents who thought they WERE practicing safe sleep
- Reflux
- Choking

## Reflux Clinical Practice Guidelines

- Supine with head elevated vs supine and flat
  - Reflux same or WORSE with HOB elevated
  - Nursing and family culture change
- Semi-supine position INCREASES reflux
  - Car seat.....
- Prone positioning decreases reflux
  - At a cost.....

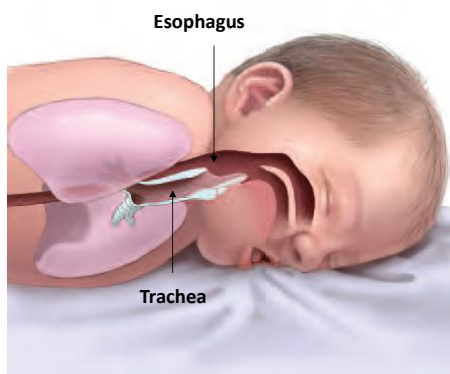
# NASPGHAN Gastroesophageal Reflux CPG, 2009

Esophageal acid exposure measured by pH probe compares favorably with that measured in the supine position. However, prone and lateral positions are associated with an increased incidence of sudden infant death syndrome (SIDS). The risk of SIDS outweighs the benefit of prone or lateral **sleep** position on GER; therefore, in most infants from birth to 12 months of age, supine positioning during sleep is recommended.



In the supine position, the trachea lies on top of the esophagus. Anything regurgitated or refluxed from the esophagus has to go against gravity to be aspirated into the trachea.

<http://www.nichd.nih.gov/sids>



Conversely, when a baby is in the prone position, anything regurgitated will pool at the opening of the trachea. This makes it much easier for the baby to aspirate.

<http://www.nichd.nih.gov/sids>

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## An Untold Story: Injuries Due to Bedsharing

- Many babies are admitted to the hospital after being injured during unsafe sleep
  - Skull fractures, intracerebral bleeding, and closed head injuries
  - Aspiration pneumonia
  - Hypoxic brain injury from near suffocation
  - Brachial plexus and nerve injuries
- Injuries also occur in the hospital during unsafe sleep

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## Modeling safe sleep

- Hospital
- Swaddling
- Toys and other items in crib

## New NIH Campaign



## Infant crying

## International Incidence of AHT <1 year

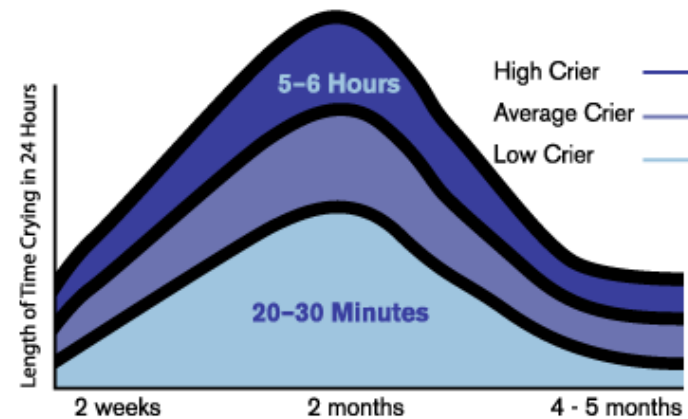
- 24.6/100,000 (CI=14.9 – 38.5) Edinburgh
- 29.7/100,000 (CI=22.9-36.7) North Carolina
- The numbers are similar whether done by active or passive surveillance.
- In Maine with approx 15,000 live births/year this would translate to 4-5 cases a year.
- In 2003 2.6% of NC & SC parents admitted shaking child <2
  - 1 in 152 shaken children admitted to hospital
  - 1 in 335 shaken children dies



## Who Shakes Babies

- Most common perpetrator is the male in the home
  - First is the biological father
  - Second is the unrelated male
- Next most common is female babysitter
- Least common is the mother

## Curves of Early Infant Crying 2 Weeks to 4 - 5 Months



## DVD and booklet

- Received in hospital (Dose 1)
- Reinforced in community (Dose 2)
  - Provider office
  - Maine families
  - PHN
- Reinforced in the general public (Dose 3)
  - Public service announcements
  - Click Campaign



## *Crying, Soothing and Coping: Doing What Comes Naturally*

Updated PURPLE Program Booklet

*Did you know your baby would cry like this?*

A new video on ways to soothe your baby is included.

The Period of **PURPLE** Crying®



A New Way to Understand Your Baby's Crying

Updated PURPLE Program Booklet

The Letters in **PURPLE** Stand for

<b>P</b>	<b>U</b>	<b>R</b>	<b>P</b>	<b>L</b>	<b>E</b>
<b>PEAK OF CRYING</b>	<b>UNEXPECTED</b>	<b>RESISTS SOOTHING</b>	<b>PAIN-LIKE FACE</b>	<b>LONG LASTING</b>	<b>EVENING</b>
Your baby may cry more each week, but most in month 2, then less in months 3-5	Crying can come and go and you don't know why	Your baby may not stop crying no matter what you try	A crying baby may look like they are in pain, even when they are not	Crying can last as much as 5 hours a day, or more	Your baby may cry more in the late afternoon and evening

The word *Period* means that the crying has a beginning and an end.

# New Online Training Modules

Dashboard

Icon Legend | Logout

Dashboard > Courses

Available Lessons

NCSBS Period of PURPLE Crying Program Overview

Training for Implementation Presentation (27 Min)

View the Period of PURPLE Crying DVD and Booklet

View the CRYING, SOOTHING, and COPING™ video

Taking Points and Resources

Available Quizzes

PURPLE Training for Implementation Quiz

Downloads

Additional downloads are available for this lesson

My Training Modules

Three Lines of Evidence of the Program

Crying and Colic Is Normal

The Most Common Stimulus

Shaking a Baby Is Dangerous

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# OUTCOMES

- Approximately 12,000 families served per year since 2008

Here’s what you can do:

- Reinforce the PURPLE materials
- Ask at visits about infant crying:
  - How much does the baby cry each day?
  - Is there a new male caregiver?
  - How do caregivers cope with crying?
- Who are the caregivers for the infant? Have they watched The Period of PURPLE crying?
- Posters in office
- Crying card for parent/caregiver education

Parent Support website  
[www.purplecrying.info](http://www.purplecrying.info)



What is the Period of PURPLE Crying?

The Period of PURPLE Crying® is the phrase used to describe the time in a baby's life when they cry more than any other time.



Sleeping

Infants who cry a lot, or are awake and fussy at night are a source of concern for many parents. This section will help parents with infant sleeping problems and questions.



Soothing

Because of the normal increase in crying that occurs in the first months of your baby's life, parents and caregivers usually have questions.

### Three Dose Program

- “Three Dose” exposure is ideal
- Some organizations may not deliver all three Doses
  - This is ok
  - *PURPLE* program provides resources for all three Doses

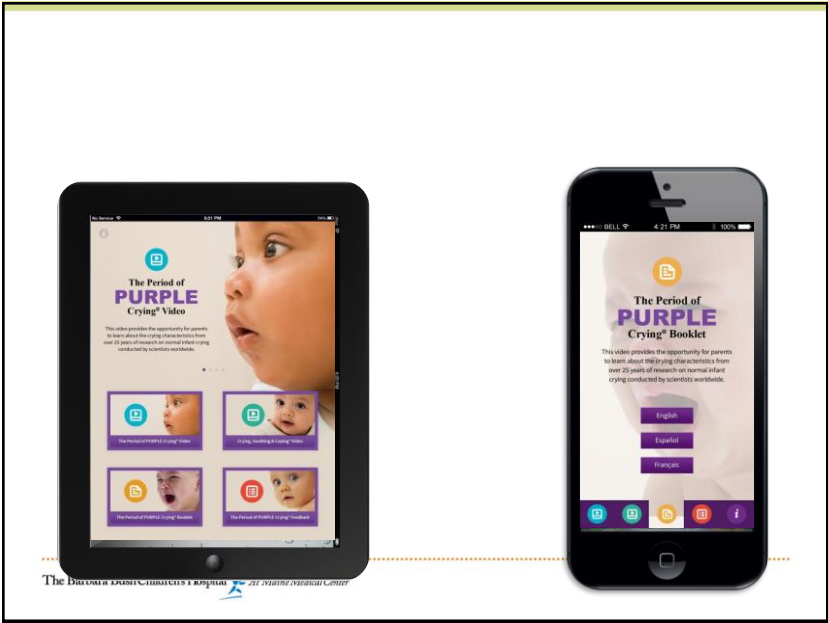


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### PURPLE Mobile/Web App Available April 1<sup>st</sup>, 2015

- Allows parents to access the program materials on mobile and/or desktop devices
- Available in the Apple App store and Google Play store at no charge to families
- Web version available for parents without Apple or Android mobile device
  - Web version is accessible on mobile devices, desktop, tablet, or laptop
- Access codes valid on up to five devices

 DVD/booklet  App/booklet combination



## Mobile/Web Access Code

Download the **Period of PURPLE Crying®** program app!

GET IT ON  
Google play

Download on the  
App Store

ON THE WEB  
PURPLEcryingapp.info

**The app includes:**

- 10-minute video on the **Period of PURPLE Crying**
- 17-minute video on infant soothing and coping with frustration
- Digital version of this booklet

Use the access code below to activate your app. Keep your booklet and code in a safe place. You will need this to activate the app on up to five devices.

Your Complimentary Access Code:

**Z987654**

Please ask others who care for your baby to review the **Period of PURPLE Crying** information by downloading the app or by viewing the materials on your device.

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The Children's Hospital of Philadelphia

National Center on Shaken Baby Syndrome

www.dontshake.org

**Healthy babies can cry a lot in their first 5 months of life.**

The **Period of PURPLE Crying** is a new way to understand this crying. It explains what is normal, what you can expect, and how to keep your baby safe. It is based on over 25 years of research on infant crying by leading child development and medical experts.

The program is designed so that each family of a new baby receives their own complimentary copy of the booklet and app. The information and material contained in this booklet cannot be resold or reproduced in any form.

Visit **PURPLEcrying.info** or call the NCSBS at (801) 447-9360.

This program was developed and trademarked by the National Center on Shaken Baby Syndrome, USA, and developmental pediatrician Ronald G. Barr, MDCM, FRCPC.

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## Summary

- Infant crying is age dependent
- Some babies will cry up to 5 hours per day (6-8 weeks of age)
- Parents who understand the normalcy of crying are less likely to call their provider and less likely to visit the emergency department
- In Maine, 10-12 babies die in unsafe sleep circumstances every year
- “Back to Sleep” has become “Safe to Sleep”
- Instruct families about safe sleep at the first visit, in the newborn nursery, and before birth


## SAFE MEDICATION STORAGE: KEEPING KIDS SAFE






## Protect the ones you love

# POISONINGS

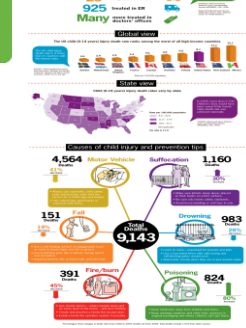


In 2009, 824 children died from poisonings. Between 2000 and 2009 there was an 80% increase in the poisoning death rate, largely due to prescription drug overdoses.

To prevent poisonings: keep medicine away from children and teens; keep cleaning solutions and other toxic products in original packaging and where children can't get them.

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<http://www.cdc.gov/vitalsigns/childinjury/infographic-text.html>




# NATIONAL POISONING DATA

- Among children, ED visits for medication poisonings (excluding misuse or abuse) are twice as common as poisonings from other household products (such as cleaning solutions and personal care products).
- Among children, ED visits for medication poisonings are most common in children <6 years of age.
- One out of every 180 two-year-olds visits an emergency department for a medication poisoning.

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<http://www.cdc.gov/HomeandRecreationalSafety/Poisoning/poisoning-factsheet.htm>



## NATIONAL POISONING DATA

- Between 2000 and 2009 there was an 80% increase in the poisoning death rate, largely due to prescription drug overdoses.
- ED visits in which buprenorphine was involved as either a direct cause or a contributing factor increased by 850% between 2005 and 2009.
- In 2009, 824 children in the US died from poisonings.
- Among children, ED visits for medication poisonings (excluding misuse or abuse) are twice as common as poisonings from other household products.
- Among children, ED visits for medication poisonings are most common in children <6 years of age.

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## CHILD AGE INGESTIONS IN MAINE

MAINE OFFICE OF CHILD AND FAMILY SERVICES-  
(OCFS)

OCFS: Alleged Serious Injuries- 2014

Category	Percentage
Ingestions	28%
All other serious injuries	72%

INGESTIONS ACCOUNTED FOR NEARLY 30% OF ALL ALLEGED SERIOUS INJURIES REPORTED TO THE MAINE OFFICE OF CHILD AND FAMILY SERVICES IN 2014.

TOP 5 SUBSTANCES INGESTED IN ALLEGED SERIOUS INJURY REPORTS TO OCFS IN 2014

Substance	Count
Benzodiazepine	15
Buprenorphine (Suboxone®)	20
Antipsychotics	4
Marijuana	3
Rx Painkillers	1

Alleged Ingestions by age- 2014

Age in years	Count
>1	3
1	15
2	20
3	4
4	3
5	1
6	4
7	1
8	1

# CHILD AGE INGESTIONS IN MAINE

NORTHERN NEW ENGLAND POISON CENTER

\*Substances involved in Maine pediatric exposures

MARIJUANA INGESTIONS	
YEAR	TOTAL
2014	4
2013	7
2012	5
2011	3

Ingestions by Major Group- 2014	Total
Analgesics (acetaminophen, ibuprofen- includes opioids)	393
Antidepressants	41
Cold and cough preparations	78
Sedative/hypnotics/antipsychotics	55
Stimulants and street drugs	34
Alcohols	40
Tobacco/Nicotine products	52

OPIOID INGESTIONS	2014
Buprenorphine (Suboxone®)	12
Oxycodone (OxyContin®, Percocet®)	10
Hydrocodone (Lortab®, Tussionex®, Vicodin®)	9
Tramadol (Ultram®)	5
Stomach Opioids (Loperamide, Diphenoxylate)	6
Codeine (Tylenol®, Fiorinal® or Soma® with codeine)	4
Morphine (Avinza™, Kadian®, MS Contin®, Oramorph®)	2
Methadone (Dolophine®, Methadose®)	2
Others Opioids	5
Total	55

# INGESTIONS WORKGROUP

- Background: Increased amount of child welfare reports related to ingestions by young children specifically Suboxone, mental health medications, and other medications.
- Workgroup developed to raise awareness about safe storage
  - SAMHS, OCFS, Northern New England Poison Control
  - Letters to prescribers, materials ordered, informational sessions held with PHN, Maine Families, MAT providers
- Ongoing awareness and dissemination of materials



## SAFETY RECOMMENDATIONS

### Store Safely

- ❑ Store medicines in a safe location that is too high for young children to reach or see.\*
- ❑ Never leave medicine or vitamins out on a kitchen counter or at a sick child's bedside, even if you have to give the medicine again in a few hours.\*
- ❑ Always relock the safety cap on a medicine bottle. If it has a locking cap that turns, twist it until you hear the click or you cannot twist anymore.\*
- ❑ If you use an e-cigarette, keep the liquid nicotine refills locked up and out of children's reach and only buy refills that use child resistant packaging.°

### Give Safely

- ❑ Tell children what medicine is and why an adult must be the one to give it to them.\*
- ❑ Never tell children medicine is candy so they'll take it, even if your child does not like to take his or her medicine.\*
- ❑ Do not take medicine in front of small children; they may try to imitate you later.°
- ❑ Purchase and keep medicines in original containers with safety caps.°
- ❑ Check the label each time you give a child medicine to ensure proper dosage.°

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The B

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## SAFETY RECOMMENDATIONS

### Communicate to Caregivers

- ❑ Remind babysitters and visitors to keep purses, bags, or coats that may have medicines or other substances in them up and away and out of sight when they are in your home.\*

### Dispose Safely

- ❑ Reduce the risk of kids getting into medicine by getting rid of unused or expired medicine or substances.
- ❑ Contact your local police department for your local medicine take-back program.

### Know the Poison Help Number


- ❑ Program the Poison Help number 1-800-222-1222 into your home and cell phones.\*
- ❑ Order a Poison Control magnet from [NNEPC@mmc.org](mailto:NNEPC@mmc.org).

### Find Resources Near You

- ❑ To find substance use services for you or someone you care about, call the Office of Substance Abuse and Mental Health Services Information and Resource Center at 1-800-499-0027 or dial 2-1-1.

\*= Up & Away, an initiative of PROTECT in partnership with the Centers for Disease Control and Prevention (CDC)

° = HealthyChildren.org, from the American Academy of Pediatrics

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## SAFE MEDICATION STORAGE AND DISPOSAL: “UP AND AWAY”

- Up and Away messages:

- Out of Reach
- Put Meds Away
- Hear the Click
- Teach Your Child
- Tell Your Guests



- Downloadable materials available at:

[www.upandaway.org](http://www.upandaway.org)

- Print materials available through the Maine Office of Substance Abuse and Mental Health Services Information Resource Center (IRC)

- Call 1-800-499-0027 or visit

<http://www.maine.gov/dhhs/samhs/osa/irc/index.htm>

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## FOR MORE INFORMATION

- Nikki Busmanis, FASD/DAB State Coordinator

- [Nikki.Busmanis@maine.gov](mailto:Nikki.Busmanis@maine.gov) 207-287-2816

- Christine Theriault, Prevention Manager

- [Christine.Theriault@maine.gov](mailto:Christine.Theriault@maine.gov) 207-287-8917

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